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AUTHOR Petty, Gregory C.; Pierce, Randal
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ABSTRACT

A study was conducted to determine if industrial arts teachers and their administrators view perceived safety training needs differently. The Safety Training Needs Survey, developed at the University of Tennessee, was mailed to a randomly selected sample of 145 industrial arts teachers and their administrators in Tennessee. Replies were received from 62 teachers (43 percent) and 89 administrators (61 percent). Data were analyzed using a one-way multivariate analysis of variance. The results revealed no differences between the groups of teachers and administrators in their perception of safety training needs. Both groups share a perceived high need for safety training. The study concluded that teacher educators should consider this identified need for safety training when planning content for preservice or inservice education for industrial arts teachers. (KC)

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SAFETY IN THE INDUSTRIAL ARTS CLASSROOM AS PERCEIVED BY INDUSTRIAL ARTS TEACHERS AND ADMINISTRATORS

by

Gregory C. Petty

Randal Pierce

The University of Tennessee
Knoxville, Tennessee

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Technological and Adult Education
429 Claxton Addition
The University of Tennessee
Knoxville, TN 37996-3400
(615)-974-2574

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SAFETY IN THE INDUSTRIAL ARTS CLASSROOM

AS PERCEIVED BY

INDUSTRIAL ARTS TEACHERS AND ADMINISTRATORS

Safety and a safe working environment have been concerns of industry and education for several years. The Occupational Safety and Health Act of 1970 brought these issues to the foreground of American society. In more recent years attention has been focused on issues of liability. Many of these issues were settled in the court room often with disastrous results for defendants when settlement was awarded to the plaintiff.

The literature is clear concerning the liability of the teacher. Several cases have tested the issue of negligence and the responsibility of the public school teacher. Those teachers involved with lab courses such as industrial arts are particularly at risk.

Educational Importance

There has been a dearth of research in the past five years on safety program needs for industrial arts programs. Many teachers are operating "blind" in the laboratory with regard to safety and their own liability. After the heyday of the 1970's following the OSHA act attention to safety has cooled. However more attention has focused on the legal liability of the teacher. Teacher educators have a responsibility of determine the extent of perception that currently exists and to develop strategies for teacher training to help alleviate potential problems.

Little research has been done to determine the industrial arts teachers' perceived knowledge or concern for laboratory safety. A study by Petty (1984) revealed industrial arts teachers had a significantly lower appreciation of safety needs than did administrators. While the reasons for this perceived difference were inconclusive, it does point to an area of concern that should be addressed by pre-service and in-service training. Therefore the focus of this study was to determine if industrial arts teachers and their administrators view perceived safety training needs differently.

Purpose of the Study

This study sought to ascertain if the perceived program safety needs of industrial arts teachers are different than their administrators. The following research question was formulated and tested at the .05 alpha level:

Is there a significant difference between the mean scores of teachers and their administrators on their perceived safety needs as measured by a Safety Needs Survey?

Method

The study utilized an ex post facto design. The groups compared were (a) industrial arts teachers (secondary) and (b) the principals and supervisors of these teachers (administrators). The dependent variables were the twelve categories of the Safety Training Needs Survey (STNS).

Sample.

A list of industrial arts teachers and their administrators

was obtained from the Tennessee State Department of Education. From this list of 360 teachers a sample of 145 was randomly selected to represent the population. The teachers were first selected and their administrators were matched to the teachers. The total sample was 145 industrial arts teachers and 145 administrators. A mail out survey was followed in three weeks by a follow up survey to achieve completed returns from 62 industrial arts teachers for a 43% response and 89 administrators for a 61% response.

Instrumentation.

The instrument used in this study was the Safety Training Needs Survey. It was developed by researchers at the University of Tennessee from a review of literature which revealed twelve categories of concerns for classroom and laboratory safety. These categories were: A. Machines and Equipment; B. Personal Protective Equipment; C. Teacher Liability; D. Recording and Reporting Accidents; E. Laboratory Instruction and Demonstration; F. Safety Testing/Student Evaluation; G. Safety Inspections/Facilities, Equipment; H. Administrative Commitment; I. Housekeeping and Maintenance; J. Emergency Procedures; K. Utilizing National, State, and Local Agencies; L. Facilities and Equipment. For each of these categories a number of items to describe the category were developed. The resultant survey contained 68 items that measured perceived safety training needs on a Likert-type scale of (1) Very Little Need, (2) Little Need, (3) Uncertain, (4) High Need, (5) Very High Need. The scores of

each category were recorded as the sum of the scores from the individual items that constitute that category.

Analysis.

Data were analyzed using a one-way multivariate analysis of variance statistical procedure. Version 6 of SAS for Personal Computers was the program used for the analysis. A .05 level of significance was set to determine differences. The twelve categories of the Safety Training Needs Survey instrument were compared using a Fisher's LSD analysis to reveal specific program areas of differences between groups.

Results

This study compared the self rated level of safety training needs as measured by the STNS for industrial arts teachers and their administrators. The comparison was made by determining if significant differences existed in the measured level of safety categories.

The data analysis revealed a Hotelling-Lawley Trace of 0.0728 for 12 and 138 degrees of freedom with a F value of 0.8373 for overall group effect. This value was not significant at the .05 level.

Discussion

The results reveal no differences between the two groups of teachers and administrators in their perception of safety training needs. A closer look at the data suggest that both industrial arts teachers and their administrators share a perceived high need for safety training. This high need

identified for safety training should be considered during planning content for in-service training or education.

Perhaps their is improved communication between teachers and administrators on issues such as in-service safety training. Or it could indicate a shared fear of litigation if safety needs are not met. Such awareness of teacher liability could be garnered from the media or from other teachers.

Pre-service teacher educators should note this perceived high need for safety training when designing their teacher preparation programs. Teacher educators should also continue their commitment to the general objective of teaching students to work safely as we adapt to and adopt the emerging new technologies in our industrial arts/technology education programs.